



Features

Rubber blocks in shear force are often used on engine and in equipment mounting to isolate vibrations. They do this by absorbing shock energy by deforming. This deformation leads to a decrease in cross-section as the block lengthens, an effect described by Poisson's Ratio. After this experiment, students will understand the behavior of a very flexible material such as rubber. Rubber is interesting in that the lay person regards it as an 'elastic' material. In engineering terms it is not as 'elastic' as steel and often exhibits a high degree of hysteresis.

In the Tesca Rubber in Shear Apparatus a rubber block 150 x 75 x 25mm is bonded to two vertical plates. The back plate secures the rubber block to a vertical surface such as a wall. The front plate allows a load hanger to be suspended and also the anvil of a dial gauge to rest. The load hanger is loaded using the calibrated weights supplied and the corresponding vertical deflection of the rubber block is monitored using the dial gauge supplied.

A comprehensive instruction manual is supplied. No wall fixings are supplied

Specifications

- Measures the shear deflection of a rubber block 150x75x25mm and allows Bulk Modulus and Poisson's Ratio to be determined
- Deflection measured by a dial gauge

Note: Specifications are subject to change.

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- An Instruction manual for student and lecturer provided
- Set of weights

Experiments

- To determine the variation of deflection with applied load
- To investigate the relationship between shear stress and shear strain
- To find the modulus of rigidity of the rubber block

Operating Conditions

- Operating environment:
 - * Laboratory
- Storage temperature range:
 - * -25oC to +55oC (when packed for transport)
- Operating temperature range:
 - * +5oC to +40oC
- Operating relative humidity range:
 - * 80% at temperatures < 31oC decreasing linearly to 50% at 40oC